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October 28, 2009

Via Hand Delivery

Sharon E. Gillett
Chief, Wireline Competition Bureau
Federal Communications Commission
445 12th Street SW
Washington, DC 20554

Re: Google Voice Calling Restrictions

Dear Ms. Gillett:

Pursuant to your letter dated October 9, 2009, below please find your original questions in bold and Google's responses. As explained in the attached letter, we respectfully request confidential treatment for a portion of our response to Questions 2 and 5, pursuant to section 0.459 of the Commission's rules.

FCC Question 1. We understand that Google Voice offers a number of different functionalities, including: (a) the ability to have calls to a Google Voice telephone number forwarded to designated telephone numbers; (b) the ability to place outgoing calls from the Google Voice website; (c) the ability to place outgoing calls from the Google Voice mobile site; and (d) the ability to place outgoing calls by calling your own Google number and signing into the Google voicemail system.

(i) For each of these functionalities, and any other functionalities that allow Google Voice users to place calls, please describe how the Google Voice call is routed and whether calls to particular telephone numbers are restricted. For each functionality for which calls to particular telephone numbers are restricted, please describe the technological means by which those restrictions are implemented.

Google Response 1. Google Voice is the March 2009 re-launch of the GrandCentral service. Google acquired GrandCentral Communications, Inc. in July 2007. GrandCentral was founded in late 2005 and launched the GrandCentral service in September 2006.

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The primary purpose of GrandCentral was to give users greater control of their pre-existing voice communications, by providing one telephone number to manage inbound calls to their wireline and/or wireless telephone numbers and devices. GrandCentral also allowed users to enter a Gizmo5 (a third-party, VoIP service) Session Initiation Protocol ("SIP") address as a forwarding phone. As more and more people had multiple phone numbers, each associated with its own device and voicemail box, GrandCentral management observed a need for users to simplify their communications through a single contact point for all inbound calls, and a single inbox for all voicemail messages. GrandCentral allowed users to set up to six forwarding telephone numbers that would ring when an inbound call was received at the GrandCentral number. Any time that a user's underlying telephone numbers would change (e.g., when moving, getting a new job, changing underlying service providers, etc.), the user could simply visit the GrandCentral website and update the forwarding numbers; the single GrandCentral number would never change and all inbound calls to the GrandCentral number would ring to the new forwarding destination.

GrandCentral also offered a number of enhanced software features to give users greater control over how different inbound callers would be treated. These features included the ability to send certain calls to voicemail or only ring a subset of available numbers, the ability to have custom voicemail greetings for different callers or groups of callers, and the ability to mark certain callers as "spam," and send the caller to a special "spam" voicemail box and play a generic "spam" greeting to the caller.

When the GrandCentral service was re-launched in March 2009 as Google Voice, additional features were added to the product, including the ability to receive SMS messages through the Google Voice and the automated transcription of voicemail messages into text. With those improvements, users could now send and receive SMS messages through their Google Voice number and could get the text of their voicemail sent to them via email and SMS. SMS and voicemail messages could also be saved online in the user's Google Voice inbox and could be searched by text.

Importantly, prospective users of Google Voice must subscribe to one or more traditional telecommunications services to be eligible to create a Google Voice account. The Google Voice system will require that a unique US telephone number be verified before an account will become active. Once verified by entering a 2-digit activation code, the user will

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then be able to utilize the Google Voice number to ring all of their existing phones.

In order to gain all the benefits of the Google Voice features, users need to be reached via inbound calls to their Google Voice number. One of the most requested features has been for Google Voice users to show their Google Voice number as their outbound caller ID so that called parties may return calls to the user's Google Voice number. In order to facilitate this request, Google Voice allows users to place calls from the Google Voice website, mobile site, mobile applications, and through the Google Voice voicemail system. Each of these outbound calling features will be described below.

(a) The ability to have calls to a Google Voice telephone number forwarded to designated telephone numbers.

When a Google Voice user sets up an account, the user may enter up to six telephone numbers that will ring when somebody places an inbound call to that user's Google Voice number. These forwarding numbers are currently restricted to U.S. telephone numbers. Every such number is validated by Google Voice by placing a call to that number and requiring the user to enter a 2-digit activation code.

Google Voice partners with multiple CLEC vendors to provide both inbound and outbound calling features. Inbound calls to a user's Google Voice number are routed to the CLEC vendor which provides that user's Google Voice number, then converted by the CLEC into SIP and sent to the Google Voice softswitch. The Google Voice softswitch answers these inbound calls and then looks up the user based on the Google Voice number, whether the user has established any custom rules for that caller (spam filter, which numbers to ring, voicemail greeting, etc.), and determines which forwarding numbers of the user to ring for that particular call, if any.

Once these user-designated rules have been determined, the Google Voice softswitch then originates outbound calls to the designated forwarding numbers via SIP to one or more CLEC vendor(s) which then converts those SIP calls to TDM calls and terminates them to the user's forwarding numbers. Google Voice also gives users the option to forward calls to a Gizmo5 VoIP endpoint, in which case such calls would be sent directly to the Gizmo5 client via SIP. As a result, Gizmo5 calls would not be converted to TDM, and would not be handled by an outbound CLEC vendor. When the user answers one of these forwarding numbers, the

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Google Voice softswitch plays a message indicating who the caller is, and gives the user the option of accepting the call or sending the caller to voicemail. If the user chooses to accept the call, the first inbound call is then bridged with that accepted outbound call, and the other outbound call(s) (if any) are dropped. If the user chooses to send the caller to voicemail (or never answers nor takes action on an outbound call) all of the outbound calls are dropped and the inbound call is sent to voicemail where the voicemail greeting for that caller is played.

The Google Voice call routing system performs a look-up function of both the source and destination numbers to determine the cost of the call, and how to route it externally to CLEC vendors to terminate the call. Look-ups are done on successively shorter prefixes, starting with the full number. For example, for the number 111-222-3333, we would check the full number, then 111-222-333, then 111-222-33, and so on. The first match is used to determine the proper routing. Some of these numbers or routes, including those that correspond to certain high-cost international and domestic destinations (see response to Question 4, below), may be marked as "inactive." If the call being attempted involves an inactive number or route, that call is not completed. Originally, this look-up functionality was limited to an examination of prefixes for the first eight digits of a phone number, which for U.S. calls related to 1-NPA-NXX-X levels; if a route at this level was determined to be "inactive," all calls to that prefix would be restricted. This look-up feature has recently been enhanced to allow an examination of the full U.S. phone number (1-NPA-NXX-XXXX), allowing the system to restrict calls to the granularity of a single telephone number.

In the number forwarding scenario, if the number to be verified corresponds to a prefix that is "inactive," the phone verification call will not be placed and the number will not be verified.

(b) The ability to place outgoing calls from the Google Voice website.

From the Google Voice website, a user can click the "Call" button contained in every voicemail message in the inbox, press the "Call" button next to every contact's phone number in the address book, or click the "Call" button on the website and enter a telephone number to be called. When any of these actions occur, the Google Voice service will ask the Google Voice user where they would like to be called first by showing the user the list of that user's forwarding phone numbers and letting the user select the number at which he or she would like to be called. The Google Voice softswitch then originates a first call to the user via SIP through a

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CLEC vendor as described above, or directly to the Gizmo5 client via SIP if the user selects that option. Once the user answers the original call, the Google Voice softswitch then originates a second call to the number the user entered via SIP through a CLEC vendor. Once that second call is answered, the two calls are bridged by the Google Voice softswitch.

Similar to the process above, if the number to be called corresponds to a prefix that is "inactive," the phone verification call will not be placed.

(c) The ability to place outgoing calls from the Google Voice mobile site.

The functionality of placing an outgoing call via the Google Voice mobile site is identical to that of placing an outgoing call through the Google Voice website as described in (b) above. See <http://www.google.com/voice/m>.

Google Voice also has calling applications for the Android and Blackberry platforms that are currently in the market, and has developed a similar application for the iPhone platform. With these mobile applications, a Google Voice user places an outbound call by using the Google Voice application to enter the number to be called. The mobile application will then call a Google Voice access number which will be routed to the CLEC vendor who provided the Google Voice access number, converted to SIP and sent to the Google Voice softswitch, where it will be answered. The Google Voice softswitch will then originate a call via SIP through a CLEC vendor who will then convert the call to TDM and connect to the number entered by the user. When answered, the two calls are bridged by the Google Voice softswitch.

As described above, if the number to be called corresponds to a prefix that is "inactive," the call will not be placed and Google Voice will play a recording to the user stating that "this is not a valid number" and will then hang up the call.

(d) The ability to place outgoing calls by calling your own Google number and signing into the Google voicemail system.

Google Voice also gives users the ability to access the Google Voice voicemail system in order to retrieve their voicemail messages, place calls, connect to Google's directory assistance product (GOOG411), and update their Google Voice settings. To access this feature, a user calls his or her own Google Voice number, which will be routed to the CLEC vendor who provided the number, converted to SIP and sent to the Google Voice

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softswitch where it will be answered. After accessing the Google Voice voicemail system, the user will select option 2 to place an outbound call and then enter a telephone number to be dialed followed by the pound (#) key. The Google Voice softswitch will then originate a call via SIP through a CLEC vendor who will convert such call to TDM and dial out to the number entered by the user. When answered, the two calls are bridged by the Google Voice softswitch.

As described above, if the number to be called corresponds to a prefix that is "inactive," the call will not be placed and Google Voice will play a recording to the user stating that "this is not a valid number" and then return the user to the main voicemail menu.

(ii) How does Google inform Google Voice users about any restrictions in the numbers to which calls can be placed using Google Voice?

Google Voice provides advance notice to users about calling restrictions in the Google Voice Legal Notices, located on the Google Voice website, which states: "Google has the right to restrict calls or connections to any telephone numbers in its sole discretion. These may include, but are not limited to certain geographic locations, special services numbers, satellite telephony services, and other call forwarding services." See <http://www.google.com/googlevoice/legal-notice.html>. The Google "Terms of Service" provisions (Sections 4.2 and 4.3) also inform users that "the form and nature of the services which Google provides may change from time to time without notice to you" and that "Google may stop (permanently or temporarily) providing the Services (or any feature within the Services) to you or to users generally at Google's sole discretion, without prior notice to you. You may stop using the Services at any time. You do not need to specifically inform Google when you stop using the Services." See <http://www.google.com/accounts/TOS>. As noted above, when a Google Voice user attempts to call a restricted number through the Google Voice voicemail system or via the mobile applications for either Blackberry or Android, a message is communicated to the user at the time of the call attempt.

(iii) To what extent are each of these Google Voice functionalities offered for free? To what extent, if any, does Google charge for any of these services? Does Google intend to charge at some point for the service? How does Google currently pay for the service?

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All of the Google Voice functionalities described above are offered for free for all outbound calls to telephone numbers in the United States. For functionalities that involve placing outgoing calls to international telephone numbers, a fee is charged.

Google Inc. pays for the costs of operating Google Voice, and treats the service as part of its larger suite of free Web-enabled software applications for consumers. Google Voice's philosophy regarding pricing is to provide as much functionality and service as possible for free to all of our users. Where underlying costs do not allow this, Google Voice may decide to charge a fee in order to continue to provide the features and functionalities currently offered by Google Voice. Google has no near-term plans to charge its users for using the Google Voice service.

FCC Question 2.

Please explain specifically what is meant by "invitation-only." How many users of Google Voice are there at this time? Are there any plans to offer Google Voice on other than an invitation-only basis?

Google Response 2.

Google Voice currently allows new users to access the application only by invitation. These invitations can be obtained by visiting the website www.google.com/voice and clicking on the link "Get an Invite." Google Voice uses the invitation-only model at the present time to minimize disruptions that could be caused by too many users signing up at the same time for this nascent service offering, and to help ensure that the features of Google Voice remain highly available and reliable. Google Voice therefore will send an invite to a potential new user's email address only when operational constraints permit us to accommodate additional users. As Google Voice continues to refine and improve its systems and operations, we intend, consistent with our business model for Google Voice, to expand the number of invitations, and eventually make the application available without invitation.

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FCC Question 3.

How does Google believe its various Google Voice services fit within the statutory classifications in the Communications Act of 1934, as amended (the Act) and the Commission's regulatory classifications (e.g., interconnected VoIP)? Do you believe its "invitation-only" subscribership affects the classification of Google Voice in any way? If so, please explain. Does the Google Voice service compete with any services classified as "telecommunications services" under the Act? Is

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Google Voice a reseller of “telecommunications services?” Please explain your answers.

Google Response 3. Google Voice is a Web-based software application. It is a single, integrated unified messaging and call management offering that is completely distinct from the user’s existing telephone access lines/services.

Google Voice constitutes an “information service” under the federal Communications Act, 47 U.S.C. § 153(20), because it offers users “a capability for generating, acquiring, storing, [and] transforming” information of the user’s choosing. The Google Voice number is a personal number for managing the user’s connectivity in one place, and it is not associated with an underlying telephone access service. For example, Google Voice provides users the capability to (a) store voicemail messages and incoming messages, (b) interact with their stored information, including call preferences based on the time of day, caller’s ID, or other user commands, (c) generate messages for incoming calls consistent with the user’s stored directions or commands, (d) process and translate audible voice messages into text messages that are stored in the user’s email messages, (e) search and retrieve stored voicemail or email messages, and (f) store and retrieve the user’s contact lists. See www.googlevoice.com/about.html. See also, *In the Matter of Appropriate Framework for Broadband Access to the Internet over Wireline Facilities, Report and Order and Notice of Proposed Rulemaking*, 20 FCC Rcd. 14853, ¶¶ 14, 15 (2005) (from the end user’s perspective, a service that “when taken together” “combines computer processing, information provision, and computer interactivity” with transport functions is an “information service,” and “provides end users more than pure transmission”).

As an information service, Google Voice is not a “telecommunications service” under the Communications Act. *In the Matter of Federal-State Joint Board on Universal Service, Report to Congress*, 13 FCC Rcd. 11501, ¶39 (1998) (“we affirm our prior findings that the categories of ‘telecommunications service’ and ‘information service’ in the 1996 Act are mutually exclusive”). We believe that two additional factors also weigh against a “telecommunications service” classification of Google Voice. First, the statutory definition of “telecommunications service,” 47 U.S.C. §153(46), encompasses services offered “for a fee.” Google Voice, however, is free to users, including all outbound domestic calling. See *Petition for Declaratory Ruling that pulver.com’s Free World Dialup Is*

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Neither Telecommunications Nor a Telecommunications Service, Memorandum Opinion and Order, 19 FCC Rcd. 3307, ¶10 (2004) (service that is “free of charge” to users is not a telecommunications service). Google Voice charges only for outbound calls to international locations; at present, fewer than 4% of all Google Voice users place outbound international calls. Second, Google Voice currently is offered on an invitation-only basis, and so is not a “telecommunications service” because it is not offered “to the public, or to such classes of users as to be effectively available directly to the public....” 47 U.S.C. § 153(46).

As a free unified messaging and call management application, Google Voice does not compete with the telecommunications services offerings of carriers. Instead, Google Voice complements those carrier services by allowing users to manage their telecommunications services better, and to make more efficient and valuable use of their time when using their underlying telephone services. Moreover, unlike traditional telephone and calling card services, Google Voice has been created as a no cost means of improving the user’s enhanced messaging and call management experience, not as a service for users to place long-distance phone calls or as a replacement for carrier-based services. *Contrast with, Regulation of Prepaid Calling Card Services*, 21 FCC Rcd. 7290, ¶13 (2006) (calling card service deemed a telecommunications service, in part, because “[m]enu-driven calling cards ... are marketed to consumers, in large part, as a transmission service”). This is confirmed by the fact that 96 percent of current users of Google Voice do not make place any outbound international calls using the international calling option. Indeed, a consumer must subscribe to one or more existing telecommunications services to be eligible to become a Google Voice user.

As an information service, Google Voice does not constitute resold “telecommunications service.” Instead, like many other offerings of information service providers (“ISPs”), Google Voice uses telecommunications obtained from certificated telecommunications carriers as inputs for the final and finished information service. *Deployment of Wireline Services Offering Advanced Telecommunications Capability, Second Report and Order*, 14 FCC Rcd. 19237, ¶¶ 11, 17 (1999) (ISPs use telecommunications “as an input component to their information service offerings” that, when combined with enhancements, “offer the resulting service, an unregulated information service”).

Finally, Google Voice is not an “interconnected VoIP” service as defined in Part 9 of the FCC’s rules. Specifically, Google Voice does not satisfy at

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least two of the four prongs of the definition of “interconnected VoIP,” as it neither “requires a broadband connection from the user’s location” nor “requires Internet protocol-compatible customer premises equipment (CPE).” 47 C.F.R. § 9.3.

FCC Question 4. **How does Google identify the telephone numbers to which it restricts calls? Does it restrict calls to individual telephone numbers, or to particular exchanges or NPA-NXXs? Why does Google Voice restrict calls to these numbers?**

Google Response 4. As a free service, Google Voice is predicated on the ability to manage operating costs aggressively. The vast majority of outbound calls to phone numbers in the United States can be terminated at reasonable costs, which allows Google Voice to provide free forwarding to U.S. numbers and free calls to those numbers. However, through the application of a set of data filters, we have found that calls to a relatively small number of telephone numbers generate vastly disproportionate costs. These telephone numbers terminate to local exchange carriers located in comparatively high cost destinations, which in turn have set up various businesses to encourage in-bound calling, that apparently include conference calling services and chat lines. If Google Voice were required to terminate calls to those specific numbers, and spread the costs among its user base, the free service model for all users could be jeopardized.

In June 2009, Google Voice began noticing extremely high cost calls to a concentrated number of destinations. Our internal investigation revealed that the top 10 prefixes to U.S. destinations (NPA-NXX) accounted for 1.1 percent of our monthly U.S. traffic by volume – an unusually large number, and some 161 times the expected amount by prefix. In turn, this traffic accounted for 26.2 percent of our monthly U.S. cost – again, an unexpectedly large number. In addition to these grossly anomalous call patterns (which include the frequency and duration of calls to rural areas), we also were aware through various industry sources of certain in-bound traffic stimulation practices, and the identities and locations of some of the carriers in question. Many of these businesses are located in rural areas with local carriers that charge unusually high rates for terminating traffic. Our own underlying carriers would assess Google Voice up to 39 cents per minute for some of this interstate traffic. As a result, based on an application of these data filters to the total universe of our outbound traffic, in August 2009 Google Voice began the practice of restricting calls to certain high-cost destinations. Currently, fewer than 100 U.S. telephone numbers are restricted based on an application of these filters.

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As described above, Google Voice originally had the ability to restrict calls to any destination based on telephone prefix (NPA-NXX-X). However, this functionality has been enhanced to allow restrictions based on the full telephone number. Google Voice now maintains a restricted list only for those specific telephone numbers that match our data filters, and appear to be associated with local carriers and associated businesses generating substantial in-bound traffic. As described above, we utilize a look-up table which is checked on every outbound call to determine if the number being requested is inactive. If the number to be called is on this inactive list, the call will not be placed. If the call is an outbound call placed by a user from a Google Voice mobile application or from the Google Voice voicemail system, the user will receive an error message when these calls are attempted. If the number to be called is not on the inactive list, the call will be placed in a manner as described above.

FCC Question 5. Does Google contract with third parties to obtain inputs for its Google Voice service, such as access to telephone numbers, transmission of telephone calls, and interconnection with local telephone networks? Please provide the names of such third parties.

Google Response 5. Yes. In the United States, Google contracts with the following third party providers to supply various telecom inputs to support Google Voice:

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Google Inc.

Response to Wireline Competition Bureau Letter, DA 09-2210

October 28, 2009

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Please feel free to contact the undersigned should the Commission have any further questions regarding this matter.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'R. S. Whitt', with a stylized flourish at the end.

Richard S. Whitt, Esq.
Washington Telecom and Media Counsel
Google Inc.

cc: John Branscome